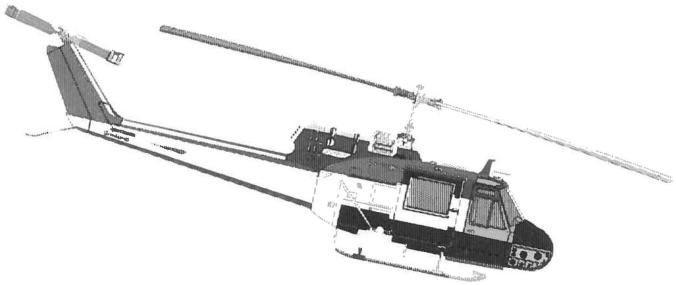
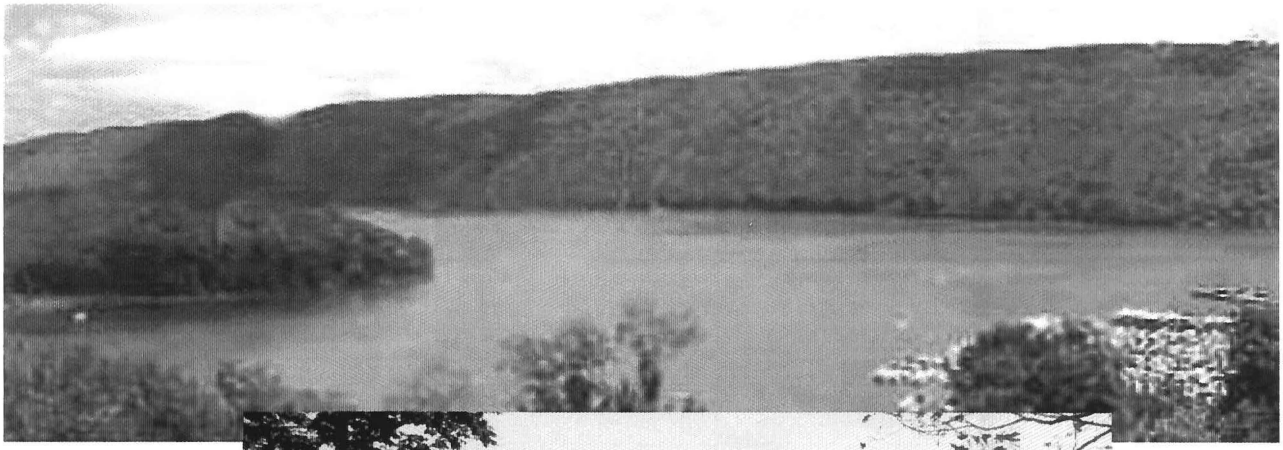
RAYSTOWN LAKE

2001 Gypsy Moth Suppression Project

SAFETY PLAN





WHEN AN ACCIDENT OCCURS

Immediate Actions To Be Taken

1. Rescue survivors and render first aid.
2. Immediately notify local emergency services if communications are available at the accident site. If not, contact Project Operations Center who will notify local emergency services.
3. Secure the site
4. After immediate threat of danger has passed, refer to the safety plan for more detailed procedures.

EMERGENCY SERVICES

EMERGENCY MANAGEMENT:		
	Huntingdon	(814) 643-6613
	Bedford	(814) 623-1105
	Blair	(814) 940-5900
STATE POLICE:		
	Huntingdon	(814) 627-3161
	Bedford	(814) 623-6133
	State College	(814) 863-4646
HOSPITALS:		
	Huntingdon, JC Blair	(814) 643-2290
	Altoona Hospital, Emergency Room	(814) 946-2153
	Bedford Memorial	(814) 623-6161
	State College, Centre Community	(814) 231-7000
	Altoona, Mercy Hospital	(814) 944-1681
Poison Control Center	1-800-643-8408	
Center for Oil/Toxic Chemical Spills	1-800-424-8802	
Search Dog, Rich Moore	(814) 643-6613	

RAYSTOWN LAKE
GYPSY MOTH SUPPRESSION PROJECT
SAFETY PLAN
2001

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INTRODUCTION

This Safety Plan is specific for the aerial application of Bacillus thuringiensis var. kurstaki (Btk) for gypsy moth suppression. The goals of this Safety Plan are to:

1. Eliminate all avoidable accidents.

2. Identify and eliminate hazardous conditions whenever possible.

3. Promote safety awareness, responsibility and accountability.

4. Create and maintain positive attitudes in all employees toward personal health and safety.

This Safety Plan covers the following areas:

1. Provides guidance in proper methods of storing, transporting, mixing, applying and disposing of pesticides. This guidance is designed to minimize the potential for adverse human health and environmental effects associated with the use of pesticides.

2. Prescribes specific communication and transportation actions to be taken in the event of an emergency.

3. Detailed action to be taken during or after the pesticide application, if there is evidence of illness or physical reaction of the pesticide.

4. Provides the names and telephone numbers of the nearest hospital facilities, ambulance services and fire companies to be contacted in case of an emergency in the vicinity of the treatment area.

5. Includes a list of pesticide ingredients, appropriate precautionary label statements, and EPA Registration Number of the pesticide to enable prompt and accurate transmission of the information in case of accident or illness.

6. List of known antidotes to reduce or eliminate possible hazards to humans and other non-target organisms from accidental pesticide spills or misapplications.

Regardless of how thorough this Safety Plan may appear, each person on the project should be constantly alert to detect any unsafe practices provide immediate corrective action to eliminate or deter these acts. Injuries can occur in a fraction of a second.

GENERAL SAFETY

All project personnel should be: (1) fully acquainted with hazards of pesticide use; (2) understand the importance of personal hygiene; (3) use protective clothing and devices that are prescribed on the pesticide label or required by the US Army Corps of Engineers and/or USDA Forest Service; and (4) always be sure somebody knows where you are working alone.

Persons working on projects involving the use of pesticides should become familiar and comply with the project Safety Plan. A copy of this project Safety Plan should be in the possession of each person working on this project. A general reference source for pesticide safety is "PESTICIDE SAFETY – GUIDELINES FOR PERSONAL PROTECTION", Publication FPM 83-1, USDA Forest Service, Forest Pest Management, Washington Office.

In general, the pesticides used for this project have low to no toxicity to humans, but unnecessary contact should be avoided. Some people are hypersensitive to certain compounds. Personnel who have a known chemical hypersensitivity to compounds being used should not work on this project. Refer to the Material Safety Data Sheets included in the Appendices to see what compounds are being used, and their potential hazards.

Supervisors should be informed of any allergies or medications a crew member may have, so that in the event of an emergency an EMT or physician can be alerted and can provide the appropriate aid to the person.

The health and safety precautions to be followed when using a pesticide include:

- Reading the label on all pesticide containers and following recommended mixing and use directions.
- Following safety practices provided on the label and in the project Safety Plan.
- Keeping visitors and other non-project persons and pets out of loading and storage sites and areas where the application is in process.
- Washing hands with soap and water immediately after contact with chemicals before handling food or tobacco substances. DO NOT EAT, DRINK, OR SMOKE WHILE USING PESTICIDES!
- Washing work clothes daily and changing into clean clothing when not on duty.
- Handling containers of pesticides and/or diluting with care to avoid personal injury. Use barrel rolls when applicable.

- Cleaning up spilled pesticides immediately after securing the safety of persons on the project.
- Supplying persons directly involved with handling pesticide containers or spill cleanup with unlined liquid-proof gloves and boots. Gloves should cover the wrists and boots should extend above the ankle. Long sleeve shirts and pants must be worn.
- Ensuring that mixing, loading, and application crews have eye protection available for use.
- Avoiding skin contact with pesticides or breathing of pesticide dusts or vapors at all times.

FOOT TRAVEL

Field crews may be traveling by foot to check on gypsy moth larvae development and leaf expansion. Be certain that permission has been granted from land owners in advance of crossing private property.

BLISTERS- Break in boots before using them heavily. Keep laces tight and wear heavy socks. Treat broken blisters to avoid infection.

FATIGUE, EXHAUSTION – Workers should be in good shape. If not, some form of exercise should be scheduled before the field season starts. When in the field, minimize heavy supplies being carried where possible, and divide work so as to minimize any extra unnecessary trips.

STEEP SLOPES, WET LOGS AND ROCKS – Watch where you step and don't hurry in hazardous terrain. Sturdy work boots should be worn that have a minimum height of 8"and a Vibram type sole.

WORKING IN HOURS OF DARKNESS – Because of the unusual working hours associated with aerial spraying, it may not be possible to arrange your schedule to minimize the need to be in the woods in the dark. Pick the easiest, unobstructed route, such as walking down a woods road or open trail. If time permits, reconnoiter the area during daylight hours. Flashlights will be available to all field crew personnel and extra batteries should be carried.

DISORIENTATION IN THE WOODS – Note obvious landmarks and directions, and familiarize yourself with the maps before entering the area. Use the maps, compasses and radio if necessary to keep track of where you are. If you become disoriented, don't panic. Find a road or, as a last resort, a drainage and follow it until you can find where you are and orient yourself to the map.

WALKING THROUGH BRUSH – Avoid these areas when the light conditions are poor. Be alert for branch stubs and sticks, and wear a hard hat and eye protection. Heavy canvas duck clothing is recommended in areas with briars or other thorny vegetation.

VEHICLE TRAVEL AND EQUIPMENT

Field crews will be driving from one area to the next. Operators are responsible for driving defensively, to avoid accident situations created by the mistakes of other drivers or weather and road conditions.

VEHICLE TRAVEL - Always use defensive driving techniques and limit speeds to those appropriate to the vehicle and the road you are traveling. Drive only on roads that are appropriate for the vehicle you are driving. You won't save time if you get stuck or have an accident to avoid a half- mile walk. Wear your seat belts at all times when the vehicle is in motion. Watch out for animals trying to cross the road. Conduct daily vehicle safety checks. Each vehicle shall carry a first aid kit, fire extinguisher and accident report form kit.

AVIATION SAFETY MEASURES

1. No spectators will be allowed in the staging areas during spray sessions

2. Staging areas will also be off limits to spectators between spray sessions unless accompanied by authorized personnel.

3. Smoking, or use of matches or lighters, will not be permitted within 50 feet of any fueling or loading operations.

4. Vehicles will be prohibited in the staging areas.

5. All loose gear in the staging area shall be secured or removed.

6. Vehicle travel at the airport should be less than 10 mph. Extreme care should be used around moving and parked aircraft.

7. A first aid kit, absorbent material and a fire extinguisher will be at each staging area.

8. Static grounds will be used during refueling operations.

9. Ear and eye protectors should be worn when aircraft are running in the staging area.

10. Hats will be secured or not worn at all in the staging areas.

11. Approach or leave aircraft only when authorized by pilot or authorized personnel. When approaching or leaving aircraft, remain in full view of the pilot. Do not approach an aircraft under the wing or around the propellers.

12. Prior to any refueling operations, all aircraft passengers will be off-loaded.

13. Pilots and any passengers will use seat belts and shoulder restraints, when available.

14. A helmet, leather boots and fire resistant (Nomex) clothing will be worn by pilots of the application aircrafts.

15. Aerial observation aircrafts should be flow between 1000-1500 feet AGL. Except landing and take-off, the observation aircraft should never be below 500 AGL.

16. Communication to the pilot during take off and landing is prohibited except in an emergency, i.e. sighting of other unidentified low flying aircraft in a danger path or sighting of flames or fire on the aircraft. Remain CALM and report your sightings clearly.

17. All specifications in the application contract will be adhered to regarding aircraft operations, safety and communications.

18. A safety briefing concerning aerial hazards will be held prior to the start of the project with all involved pilots.

19. Pilots will adhere to the daily limitations outlined in the work plan.

BIOLOGICAL HAZARDS

All personnel involved with this project will be confronted with this type of hazard and must be aware of the following elements.

ALLERGY TO GYPSY MOTHS – This is unavoidable working in epidemic populations, and is often not known until a person comes in contact with this situation. Though normally not serious the possibility should be made clear to potential employees. An allergy usually manifests itself as a red rash, and can be minimized by wearing long clothing and protecting the collar and wrist/ankle area. Treat the rash with antihistamine lotion.

STINGING INSECTS AND POISON IVY - Wear long clothing and watch where you are walking, sitting, or reaching. Ointments can be used to lessen the effects of poison ivy. Make your co-workers aware of any allergies you have to bee stings and make sure they know where your antidote is kept. Keep an eye out for hornets constructing nests and stay clear of them. A bee sting can be fatal

BITING INSECTS – Ticks, biting flies and mosquitoes may be major pests on this project. This nuisance can be minimized by wearing long clothing and using insect repellent.

POISONOUS SNAKES - Watch out for rattlesnakes and copperheads in the spring on warm exposed spots, especially along woods roads, and stream banks. Wear high boots and chaps or heavy, loose fitting pants, and look before stepping over logs or climbing hand over hand on rocks. Copperheads require special care because they are well camouflaged and do not have any warning mechanism like a rattlesnake. In the event of a bite, remain calm and take the quickest route back to the vehicle with a partner so he/she can drive you to the nearest medical facility.

WILD ANIMALS - Give wild and domestic animals a wide berth, particularly if they have young nearby. It is also possible that the wildlife you come across may have rabies, so don't go near or attempt to touch them.

IN THE EVENT AN ACCIDENT SHOULD OCCUR FROM THE PRECEEDING HAZARDS

Follow these procedures in order of priority:

1. Administer first aid to the victim. Use personal protective equipment while trying to stop any bleeding. If help is needed, contact the closest available unit to you for assistance.

2. Transport victim to nearest hospital.

3. Contact your work supervisor as soon as possible. Supervisor should have information on each crew member's emergency data including home telephone number, and who to contact in event of emergency, as well as allergy information, blood type, etc.

4. Once the injured person is received by medical personnel, try to recall the sequence of events leading to the accident. Stay at the hospital until you are notified by medical personnel that you can leave.

5. Fill out necessary reporting forms within 24 hours of the accident (CA-1).

6. Review the situation and take corrective action to avoid similar actions in the future.

FIRST AID – PESTICIDES

Exposure to pesticides may occur through four routes of entry which are: (1) oral, (2) respiratory, (3) dermal, and (4) through cuts or abrasions in the skin. Current guides on pesticide poisoning such as "Recognition and Management of Pesticide Poisonings" (U.S. Environmental Protection Agency, EPA-540/9-80-005, January 1982) provide emergency instructions for recognizing and treating poisoning by pesticides. These guides should be readily available and consulted when needed.

In the event that a pesticide is accidentally swallowed, spilled on the skin, or plashed into the eyes, follow label directions or other emergency medical instructions provided by a poison control center, hospital, or other medical facility.

Initial first aid action that should be taken is as follows:

1. If a pesticide is swallowed, call a physician immediately and get medical care as quickly as possible (see Appendix F).

2. If a pesticide is splashed in an eye, wash the eye with clean water immediately and continue washing for about 20 minutes, and not less than 15 minutes. Speed is essential
3. to prevent injury to the eye. This is one reason to have clean water on-hand during any pesticide project. An eye-wash apparatus should be located at each site where handling pesticides is taking place. Have the eye examined by a physician immediately.

4. If a pesticide is spilled on the skin, immediately wash the skin thoroughly with soap and water. Remove contaminated clothing. Put on clean clothing. Everyone should carry an extra change of clothes in their vehicle. Use plenty of soap and clean water to cleanse the skin, hair, and fingernails.

SINCE THE SYMPTOMS OF PESTICIDE POISONING VARY DEPENDING ON THE EXPOSURE, AN INDIVIDUAL FEELING ABNORMAL IN ANY WAY SHOULD REPORT IMMEDIATELY TO THE ON-SITE PROJECT SUPERVISOR.

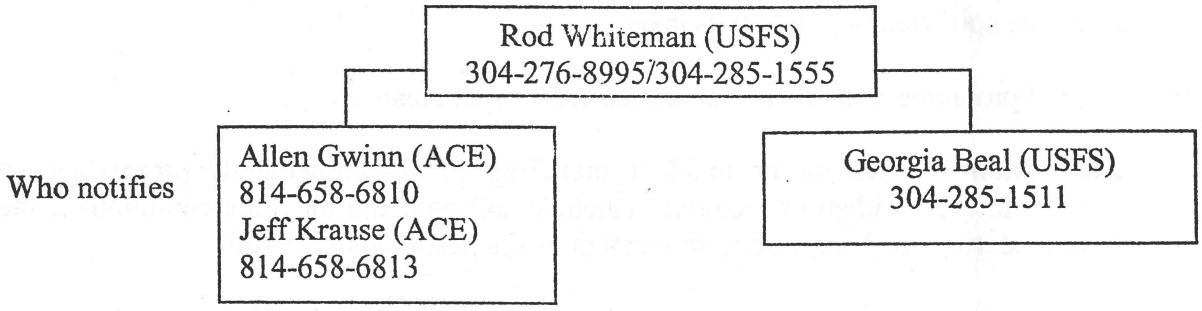
When emergency medical information or assistance is needed, use a cellular telephone to make contact with medical personnel or use a project radio to make contact with persons who can then follow through with providing advanced notification to a physician's office or medical facility.

ACCIDENT AND INCIDENT REPORTING PROCEDURES

1. Notification Procedures: As used in this Safety Plan, ACCIDENT shall mean: (1) destruction or substantial damage to a vehicle or aircraft; (2) minor, serious, or fatal injury to persons working on the project, whether Forest Service employees, Army Corps of Engineers employees, contractor employees, or other persons.

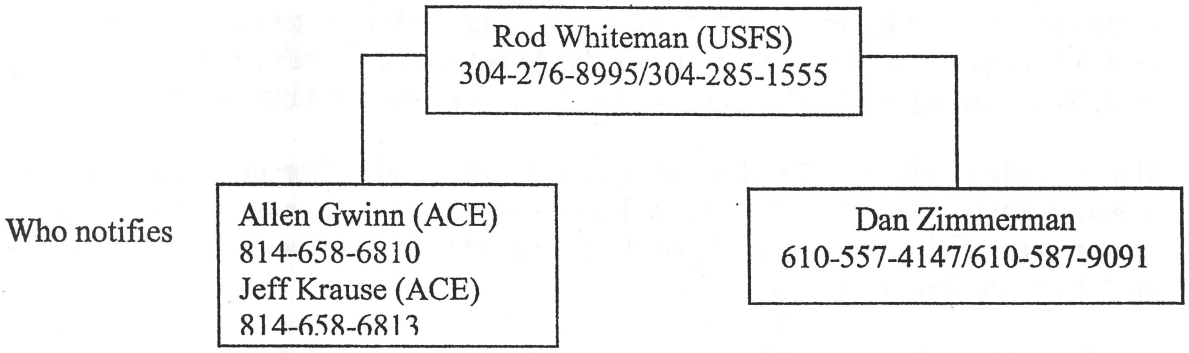
   As used in this Safety Plan, INCIDENT shall mean any mishap, malfunction, or situation involving vehicles or persons on the project which results in a deviation from standard procedures, or has the potential of resulting in an accident.

   Notification procedures should follow standard operating channels. If the event involves a vehicle, the employee initiates notification procedures by notifying:



If a Forest Service employee is involved in an accident that involves the Forest Service and results in death, injury, illness, and/or property damage, consult FSM 6730 "ACCIDENT REPORTING AND INVESTIGATION", for appropriate reporting and investigating procedure.

If the event involves an aircraft, the employee notifies:



2. Reporting Pesticide Accidents and Incidents: A written report must follow the telephone notification concerning a pesticide accident or incident. This report must include:

   In summary, these facts include:

   Location of accident or incident

   Ownership of property involved

   Pesticide involved: common name, quantity of total mix spilled, quantity of active pesticide product spilled, quantity of active ingredient spilled, EPA Registration Number of product.

   Weather conditions at time of accident or incident.

   Vegetation and animal species involved.

   If humans were involved, obtain a written statement from the attending physician.

   Pesticide spill clean-up measures taken

   Special problems encountered during pesticide spill clean-up.

   Description of accident or incident including events immediately proceeding and relating to the accident or incident. (Include soil type and moisture conditions if they have a bearing on absorption or movement of the pesticide in the soil.

   Local, State and other Federal agencies notified of accident or incident.

   Action taken to coordinate corrective measures with other agencies.

Record of sample:

- What was collected (carcass, plant material, water, soil, etc.)
- Time and date of samples

SAFETY PRECAUTIONS DURING PROJECT IMPLEMENTATION

The contractor will be responsible for applying, transporting, storing and disposing of the pesticide.

Contractors must abide by Federal OSHA and State Safety requirements. However, if any project personnel observes unsafe practices that could adversely affect employee health or the environment, the COR has the following responsibilities (FSH 6309.11).

- Project personnel shall not ignore obvious safety hazards or violations. If the violation or hazard presents imminent threat of serious injury, the project coordinator shall point them out to the contractor.

- Persistent violations or any serious violations shall be reported to the project coordinator.

- Failure to practice an acceptable conduct of safety by Contractor or Government personnel shall be documented and, if necessary, work shall be suspended until deficiencies are corrected.

The Forest Service has the responsibility to identify hazards and to require the contractor to minimize hazards.

Application Equipment – Frequent inspections for leakage or overflow of pesticides from storage tanks, pumps, or hose lines should be conducted. An air gap or anti-siphon device between the water source and the mixing tank is required. Mixing of spray solutions should be done away from streams, drains, or ditches leading to streams and only in areas where major spills would be absorbed by the soil before reaching a stream.

Protection needed for handling the pesticide during mixing is 8" high-top boots, rubber gloves, and goggles.

In addition to ensuring that appropriate protective clothing is worn, and that application equipment is maintained in safe operating condition, special effort should be made to familiarize the applicator(s) with the project area.

Pesticide Handling – The following safety guidelines should be followed during specific pesticide handling activities.

Pesticide Storage

(a) Pesticide product Material Safety Date Sheets (MSDS) are attached to this Safety Plan. MSDS should be posted at locations where pesticides are temporarily stored during project implementation.

(b) Pesticide must be stored separately from other pesticides in well ventilated, cool, dry, secured storage areas. Special precautions for storing a pesticide will be described in the product's MSDS.

(c) Post identification and warning signs on storage facilities (trailers, tankers, buildings, etc.) to advise of the contents of the stored material.

(d) Protect pesticides from inclement weather or direct sunlight. Excessive heat can cause expansion of pesticides, resulting in container rupture or overflow.

(e) Keep on hand at least 10 gallons of clean water and soap for decontamination of workers. If more than 3 people are involved with on-site project activities, a minimum of 20 gallons should be on hand. This water must be stored separately from that used for mixing with a pesticide, and labeled as "WASH WATER ONLY".

(f) Provide an ABC type fire extinguisher that is readily available to the storage facility.

(g) Store empty pesticide containers in secured manner until final disposal.

(h) Keep surplus pesticides in the original container if at all possible. Repackaging from broken containers must meet the same standards as the original container if they are to be transported. In some situations, such as a pesticide fire or spillage, pesticides may be stored and transferred for short distances in nonstandard containers.

(i) Select sites for storage that will prevent contamination of streams, ponds, cisterns, food stocks, or agricultural crops adjacent to work areas.

(j) Safely store all empty pesticide containers immediately after use while arranging for disposal.

Transportation of Pesticide

(a) Transport from the storage area only the quantity of pesticide needed for the day's operations, and return any leftover pesticide to the storage area at the end of the day.

(b) Do not leave vehicles that are transporting pesticides unattended unless the pesticides are in a secured area.

(c) Transport pesticides with the label signal words "Danger", "Poison", or "Warning" in a section of the vehicle totally isolated from drivers or passengers. Trucks with bed decking made of wood should not be used, as spills in these trucks will probably require complete replacement of the platform planking for complete decontamination.

(d) Secure containers to prevent tipping or excess jarring during transit.

(e) Cover pesticide containers to protect them from direct sunlight while in transit to the work site and place them out of direct sunlight when on-site.

(f) Do not, under any circumstances, transport pesticide containers in the same cargo area with food, livestock feeds, or clothing.

(g) Shipping papers (for the most part, the pesticide label) covering amounts of pesticide being transported, number and size of containers, product name, chemical name, and the EPA Registration Number must accompany the pesticide(s) when they are being transported.

(h) Avoid travel adjacent to streams with loaded pesticide batch trucks by careful planning of routes. No more spray volume than necessary should be transported along these routes. Parking of trucks next to streams or lakes should be avoided whenever possible both at time of spray application and in downtime between application periods.

(i) Hip boots or chest waders should also be carried to permit working in contaminated surface water. The COR or site inspectors should normally carry this equipment in the vehicle.

(j) A roll of plastic sheeting should also be available on the tanker or accompanying vehicles. This material could also be useful immediately after a spill for ditch damming or construction of a seepage-proof sump for pumping.

(k) Open containers must never be transported.

Pesticide Mixing

(a) Mixing of pesticide formulations should be done away from streams, lakes, drains, ditches or other open water. Soil types and depth to groundwater should also be factors considered when selecting mixing locations. To the extent practical, select sites where soil types and depths to ground water would reduce the potential for ground water contamination in the event of pesticide spillage.

(b) Personal protective equipment must always be used when mixing and loading pesticides. This includes eye protection, boots, and unlined rubber gloves. Eye wash safety bottles should be located in mixing and loading areas, strictly for use in the event a pesticide is spilled or sprayed into the eyes,. Water from the eye wash bottles should never be used for any other purpose.

Pesticide Disposal - The following precautions should be taken in disposing of waste pesticide materials and containers:

(a) Rinse empty containers three times with the pesticide carrier and pour the washings back into the spray tank for application to the project target area as a pesticide treatment. The volume of dilutient should be 10 percent of the container volume for each rinse.

(b) Do not reuse empty pesticide containers for unauthorized use. Encourage the pesticide supplier to recycle empty containers (generally done with larger drums).

(c) After the containers have been properly rinsed, they are to be disposed of at a state-approved sanitary landfill. Empty containers should not be allowed to accumulate.

(d) Punch holes in metal and plastic containers and break glass containers when depositing them in a sanitary landfill to ensure against reuse.

(e) Handle empty pesticide containers and waste material with the same caution accorded the active ingredient, including the use of protective clothing.

(f) Move the containers to the disposal site with extreme care.

Pesticide Spills- When a spill occurs, immediately determine if any person is injured or has come in contact with the pesticide. Each situation may differ, but the major and immediate effort should be to assist injured personnel and minimize further contamination. Accordingly, the following must be accomplished as rapidly as possible:

1. Remove injured persons from the site to a safe area.

2. Remove contaminated clothing from the injured, and others if necessary, and wash the individuals with detergent and water or clean as specified by the manufacturer.

3. Immediately seek medical assistance for injured and contaminated persons. Do not leave injured or contaminated individuals alone.

A small unplanned discharge of pesticide (less than 1 gallon of formulation) resulting from equipment failure, such as a leaky nozzle, or other minor mechanical problem, is not considered a spill. However, do not allow leaks in the pesticide application or mixing equipment to continue.

Spilled pesticides must be contained as much as possible on the site where the spill occurs. The spilled pesticide must be kept from entering wells, ditches, or other water systems.
In the event of a spill:

The action taken will be commensurate with the size and location of the spill and will include some or all of the following steps:

- Wear appropriate protective apparel from the spill kit. This includes eye protection, coveralls, or rain suit, and rubber boots or overshoes and gloves.

- Prevent further leakage by repositioning the pesticide container, or by applying a seal to the leak with rags, tape or other material at hand.

- Separate leaking containers from other containers.

- Take appropriate action to prevent unprotected persons from coming in contact with the spilled pesticide.

- Confine the spill to prevent it from spreading. Encircle the spill area with a dike of sand, absorbent material, or as a last resort dirt or rags. If necessary, dig a ditch to direct the spill flow away from sensitive areas.

- If a spill involves a small water course, a dam of activated charcoal can be used to filter the water. For larger waterways, baled straw may be used to contain the spill. Dam or divert the flow of clean water around the spill if possible.

- Cover the spill with an absorbent material if the spill is liquid (Note: Absorbent materials must be disposed of as waste pesticide).

- Sawdust may be mixed with spilled pesticide to absorb the spill. This material should be transferred to metal containers and transported to a disposal site prescribed by the Program Manager.

- If the spill occurs in the vicinity of swampland or other wet terrain which would become contaminated, farm lime should be used to treat the affected area. If spill occurs near stream, absorbent and contaminated soil shall be removed from immediate area.

- Prevent ignition of flammable materials by eliminating sources of ignition for example: exhausts, electric motors, gasoline engines, cigarettes.

- If needed, secure available equipment to build pond areas so that spill does not reach waterways. Under no circumstances should this construction equipment be used if the operator is not qualified to operate the equipment.

- Initiate environmental monitoring as soon as is practical. The degree of urgency for environmental monitoring is directly related to the amount of pesticide spilled and its location to sensitive areas and species.

Emergency information on the handling of the spill of a specific pesticide is available on a 24-hour basis from the National Pesticide Telecommunications Network (NPTN), toll free at **1-800-858-7378**.

If additional emergency information is needed, the Chemical Transportation Emergency Center (CHEMTREC) can provide assistance in conducting an emergency clean-up of large spills of pesticides or other hazardous chemicals. If the NPTN is unable to provide the necessary emergency information, they will contact CHEMTREC. CHEMTREC can be contacted, toll-free, at **1-800-424-9300.**

Pesticide Responsibilities Under Contract

The Contractor is responsible for spill containment and clean up under the direction of the COR.

The contractor's personnel should be equipped and trained to take proper action in an emergency. The primary responsibility rests with the Contractor to control spill, minimize contamination, and conduct clean-up operations.

Spills resulting from the actions of the Contractor should be contained and corrected by the Contractor.

Pesticide spills may present an emergency situation requiring cooperation of all parties. The contractor will be provided with any needed information and assistance to insure protection of human health and the environment.

If the contractor fails to initiate action on a spill, the COR or Project Supervisor shall initiate corrective action.

As soon as is practical, follow the direction described under "ACCIDENT AND INCIDENT REPORTING PROCEDURES" section.

After spill containment or clean-up, decontaminate equipment or other items contaminated with pesticide. Decontaminate tools, vehicles, concrete slabs, etc. with a solution consisting of: 1) one quart sodium hypochlorite plus one cup detergent in two gallons of water, 2) 5% sodium carbonate (soda ash) solution plus detergent, or 3) 5% trisodium phosphate solution plus detergent. Scrub thoroughly and follow with a clean water rinse. Inspect surrounding area for possible contamination and leave entire area safe and in usable condition.

APPENDIX A

AIRCRAFT PRE-ACCIDENT PLAN

AIRCRAFT PRE-ACCIDENT PLAN AND HAZARD MAP INSTRUCTIONS

Although no one conducts aviation operations with the intent of having an accident, the possibility is always there. When an accident does happen, one very common factor occurs and that is CONFUSION. The unit that has control of one or more aircraft can preplan most of the things that must take place in the event of an accident. This should eliminate most of the confusion that usually occurs and assist in expediting search and rescue efforts.

Another key element in safe aviation operations is the assurance that all flight crews are familiar with the known flight hazards of the area in which they will be operating.

The last two pages of Appendix A provide guidelines for establishing a hazard map for your local area.

General:

This plan establishes the actions to take in the event of an overdue aircraft, an aircraft accident or incident.

The scope of this plan outlines the basic procedures necessary to activate all emergency search, crash and rescue services as well as associated support activities as rapidly and orderly as possible.

The plan is broken down into three categories: **OVERDUE AIRCRAFT, CRASHED AIRCRAFT ON, AND OFF AN AIRPORT**. Each category lists actions to take and references either Appendix B, C, or D for phone numbers and sequence. Do not delay notification because one or two items in the Appendix are unknown at the time--GET THE BALL ROLLING; keep an accurate written log and fill in the blanks as best you can.

"SOMEONE'S LIFE MAY DEPEND ON IT!"
OVERDUE AIRCRAFT

1. Obtain available information outlined in Appendix B.

2. Call Project Operations Center: **(304) 276-8995**

   Who will:

   a. Call local FAA Flight Service Station:

   b. Notify USFS Regional Aviation Officer/ Safety Officer Office (USFS:) **Mike Hopf/Gary Morgan (414) 297-3744/3632**

   c. Notify local law enforcement:

      State Police

Huntingdon	**(814) 627-3161**
Bedford	**(814) 623-6133**
State College	**(814) 863-4646**

CRASHED AIRCRAFT OFF AIRPORT

1. Rescue survivors - Render first aid.

2. Coordinate local crash/rescue, if available.

3. Witnesses of aircraft accident will complete actions in Appendix D.

4. Complete actions in Appendix D.

5. Get information in Appendix C.

6. Call Project Operations Center: **(304) 276-8995**

   Who will:

   a. Notify USFS Regional Aviation Officer/ Safety Officer Office (USFS:) — **Mike Hopf/Gary Morgan (414) 297-3744/3632**

CRASHED AIRCRAFT ON AIRPORT

1. Call local crash/rescue, if available: **(814) 643-6613**

2. Rescue survivors - render first aid.

3. Evacuate injured.

   a. Notify hospital,doctor:

JC Blair (Huntingdon)	**(814) 643-2290**
Altoona –ER	**(814) 946-2153**
Bedford	**(814) 623-6161**
State College	**(814) 231-7000**
Altoona – Mercy	**(814) 944-1681**

   b. Notify local law enforcement:

State Police:

Huntingdon	(814) 627-3161
Bedford	(814) 623-6133
State College	(814) 863-4646

4. Complete actions in Appendix D.

5. Get information in Appendix C.

6. Call:

Regional Aviation Officer/ Safety Officer Office (USFS:)	**Mike Hopf/Gary Morgan (414) 297-3744/3632**

LOCAL OPERATIONAL AREA HAZARD MAP

Aircraft operating at the low altitudes are subject to a high risk mishap environment. Several wire strikes, often culminating in a catastrophic accident, occur within flight operations each year. To minimize this risk, a detailed knowledge of the area to be flown and the awareness of the many obstacles which may be encountered is an essential part of the accident prevention program.

The development of a Local Operational Area Hazard Map, with constant updating as changes occur, will help in increasing the pilot's awareness of existing "wire" or "obstacle" hazards which may be encountered during operations at low altitudes.

The following is recommended:

1. A map scale of ½" to the mile or as close as you can get.

2. Cover with a hard, clear plastic sheet to facilitate nonpermanent hazard notations.

3. Post hazard map where all pilots are briefed and shown the map.

4. Assure that all pilots are briefed and shown the map.

5. Obtain current information from the materials/agencies listed below:

    a. Federal Aviation Administration (FAA):
        (1) Notice to Airmen on parachute operations
        (2) Glider operation
        (3) Military low-level operations
        (4) Areas of extreme turbulence

    b. Sectional Aeronautical Charts and FAA Flight Service Station for low-level military training routes (MTR).

6. Utilize the legend on the following page for hazard marking.

HAZARD MAP INSTRUCTIONS

HAZARD	LEGEND HIGHLIGHTER COLOR	SYMBOL
Power lines/Wires & Cable Crossings	Red	Railroad tracks
Towers	Red	Dot
Aerial Activities	Yellow	Line w/hashlines
Military Routes	Red	Wide solid line
Airports	Yellow	Colored runway
Heliports	Yellow	Dot
Restricted Areas	Red	Line through a row of x's
Known Extreme Turbulence	Red	Contour line of e's

* Note -- Highlighted colors and symbols on the 2001 gypsy moth suppression project hazard map may deviate from the colors and symbols listed above. All pilots must thoroughly cover the hazard map. All hazards might not be listed on the map.

APPENDIX A

AIRCRAFT PRE-ACCIDENT PLAN

AIRCRAFT INFORMATION

Date: _____ Local Time:_____

1. Name of pilot.
2. Names of passengers/crew members (how many?)
3. Aircraft tail number.
4. Type of aircraft.
5. Color of aircraft.
6. Type mission.
7. Last known point of takeoff.
8. Last known location.
9. Point of intended landing.
10. Was flight plan filed with FAA?
11. Was flight following being accomplished?
12. Time aircraft was due at destination.
13. Name, telephone number and location of person coordinating location effort.

NOTE: Aircraft is considered overdue 30 minutes after filed arrival time or position report.

REMARKS:

APPENDIX C

AVIATION SAFETY COMMUNIQUE

(AIRCRAFT INITIAL INCIDENT/ACCIDENT REPORT FORM)

NATIONAL PEST SUPPRESSION TRACKING SYSTEM

(Aircraft and Incident Report)

Reported By (Optional)
Name_____Phone_____
Organization_____Date__/__/__

AVIATION SAFETY COMMUNIQUE

EVENT

Date__/__/__ Local time_____ Injuries? Y__ N__ Damage? Y__ N__
Mo Day Yr 24 hour clock

Location_____State_____
Airport, City, Lat/Long, or Fire Name

MISSION

Type_____Procurement_____
Fax, Cargo, Recon, Sling, Longline, etc. Contract, OWN, Rental, Fleet, etc.

Number of Persons Onboard_____Special Use: Y__ N__ Haz Mat Onboard? Y__ N__

Departure Point_____Destination_____

AIRCRAFT

(Reg) N#_____Manufacturer_____Model_____

Owner/Operator_____Pilot_____

NARRATIVE

This form is used to report any condition, observance, maintenance problem, act or circumstance which has potential to cause an aviation-related mishap.
Form FS 5700-14 (OAS-34) Jan 96 Data Tracking#_____

AIRCRAFT INCIDENT REPORT – 2001

REPORTER: _____

DATE: _____

BASIC INFORMATION: _____

_____

_____

AIRCRAFT INFORMATION: _____

_____

_____

WEATHER: _____

_____

PILOT INFORMATION: _____

_____

NARRATIVE: _____

_____

FACTOR(S) RELATING TO THIS INCIDENT: _____

_____

_____

COMMENTS: _____

_____

_____

Email form to hbutalla@fs.fed.us or fax to Helen at 304-285-1508
or call at 304-285-1548

APPENDIX D

AIRCRAFT RESCUE INSTRUCTIONS

AIRCRAFT RESCUE INSTRUCTIONS

At an aircraft crash site, the National Transportation Safety Board (NTSB), has officially stated and declared that all crash sites are considered contaminated and injuries inflicted from debris could be fatal, based on HIV and Hepatitis B research reports. It is very critical that these sites be handled with the utmost care from the time of the accident until properly-clothed investigators arrive at the site. The least disturbed the crash site remains, the easier it becomes to investigate the cause.

1. Rescue

    a. Assist survivors and render first aid until relieved by medical personnel.

    b. If there is any danger of post-crash fire, move survivors a safe distance away.

    c. Keep bystanders and unauthorized personnel out of crash area.

    d. Establish a "No Smoking" rule. Fire and explosion are "real" dangers with residual fuel and hot metals.

2. Search the wreckage carefully for other survivors.

3. Notify the Aviation Safety Officer direct.

4. Preserve the accident site. The area to be quarantined shall not be less than 300 feet in diameter (length of a football field) and encompasses the entire wreckage. Every piece of the aircraft and its location is important to the investigators. Nothing should be disturbed. Use local law enforcement to secure site.

5. **Identify witnesses.

    a. Obtain written statements, if possible.

    b. Names, addresses, phone numbers.

**This is a very critical element.

APPENDIX E

FLIGHT SERVICES

FLIGHT SERVICES

FAA FLIGHT SERVICE:	Leesburg, VA	1-800-942-7433
	Baltimore Office	(410) 787-0040

APPENDIX F

EMERGENCY SERVICES IN PROJECT AREA

EMERGENCY SERVICES

EMERGENCY MANAGEMENT:

Huntingdon	(814) 643-6613
Bedford	(814) 623-1105
Blair	(814) 940-5900

HOSPITALS:

Huntingdon, JC Blair	(814) 643-2290
Altoona Hospitals, Emergency Room	(814) 946-2153
Bedford Memorial	(814) 623-6161
State College, Centre Community	(814) 231-7000
Altoona, Mercy Hospital	(814) 944-1681

STATE POLICE:

Huntingdon	(814) 627-3161
Bedford	(814) 623-6133
State College	(814) 863-4646

Poison Control Center 1-800-643-8408

Center for Oil/Toxic Chemical Spills 1-800-424-8802

Search Dog, Rich Moor (814) 643-6613

APPENDIX G

JOB HAZARD ANALYSIS

JOB HAZARD ANALYSIS (Instructions on Reverse & Ref. PSH 6709	1. Primary Job/Project GYPSY MOTH PROJECT	2. Location RAYSTOWN LAKE	3. Unit FHP
	4. Name of Analyst KAREN D. FELTON	5. Job Title of Analyst BIOLOGIST	6. Date Prepared 4/11/01

7. Tasks/Procedures	8. Hazards	9. Abatement Actions Engineering Controls * Substitution * Admin Controls * PPE
Handling Heavy Tanks and Drums	Strains and Fractures	Use mechanical lifting devices, avoid strains, wear gloves and wear hard-toe shoes
Foot Travel	Fatigue	Divide heavy loads. Take breaks. Stay in shape.
	Night Travel	Recon during daylight. Use head lamps. Notify landowner in advance. Wear hard hat and eye protection. FLASHLIGHTS
	Getting Lost	Use landmarks for guidance. Follow land feature, i.e., streams. Trust the Compass.
	Falling	Learn to fall. Wear good boots (8-inch tops, lug soles, leather).
	Hunting Seasons	Wear fluorescent colors.
	Forest Vegetation	Wear hard hats, eye protection, canvas clothing.
	Fences	Cross at gates or near posts; do not stretch wire. Avoid barbs with clothing; wear gloves. Consider all electric fences to be live.
Aircraft	Propeller	Stay at least 100 feet away from aircraft. Approach only with approval of pilot.
Handling Pesticides	Exposure	Flag handling area and post signs; have wash and first aid equipment on site.
	Hypersensitivity	Hypersensitive people should not be employed for the project.
	Mixing	Eye protection and gloves are required. Head cover and respirators are optional.
Exposure to:	Gypsy Moths	Hairs from moths can cause irritations to the skin and airway. Wear long-sleeved shirts and use respirators if hair are in the air.
	Biting/Stinging Insects	Blouse pants; wear long-sleeved shirts; apply repellant; check for ticks frequently.
	Poison Ivy	Ivy prevention cream before exposure is optional. Wash affected area. Wash clothes separately.
	Poisonous Snakes	Wear high top leather boots; loose fitting clothes; watch where stepping. Bite victims should be taken to hospital rather than treated in the field.
		Snake chaps are optional.
Vehicle Travel	Good conditions	Limit speed; plan your route; watch for objects in your path. I.e., deer, children, rocks, etc.; drive defensively; wear seat belts. *
	Reduced Visibility Conditions Due to Poor light, Rain, Dust, Fog, Etc	Drive with lights on all of the time when visibility is reduced. Wear seat belts. Drive defensively.
		* Only current licensed drivers
	Parking	Make sure vehicle is safely off road

10. Approved by	11. Title	12. Date
Brad Onken	Entomologist	4/17/01

FS-6700-7 (4/01)

APPENDIX H

TOXICOLOGY PROFILES

ABBOTT LABORATORIES

Foray® 48F

Biological Insecticide
Flowable Concentrate

ACTIVE INGREDIENT:

Bacillus thuringiensis subsp. *kurstaki*, protein toxins	5.7% w/w
INERT INGREDIENTS	94.3% w/w
TOTAL	100.0% w/w

Potency: 11,800 Forestry Toxic Units (FTU) of Potency per mg or 48 Billion Forestry Toxic Units per gallon.

Potency units should not be used to adjust use rates beyond those specified in the Directions for Use Section.

EPA Reg. No. 275-98
EPA Est. No. 33762-IA-1 List No. 60177

INDEX:

1.0 Statement of Practical Treatment
2.0 Precautionary Statements
- 2.1 Hazard to Humans (and Domestic Animals)
- 2.2 Personal Protective Equipment (PPE)
- 2.3 User Safety Recommendations
- 2.4 Environmental Hazards

3.0 Directions for Use
4.0 Storage and Disposal
5.0 Directions for Non-Agricultural Applications
6.0 Foray 48F for Forest, Trees and Shrubs
7.0 Notice to User

KEEP OUT OF REACH OF CHILDREN

CAUTION

1.0 STATEMENT OF PRACTICAL TREATMENT

If on Skin: Wash with plenty of soap and water. Get medical attention if irritation persists.

If in Eyes: Immediately flush eyes with plenty of water. Get medical attention if irritation persists.

2.0 PRECAUTIONARY STATEMENTS

2.1 HAZARD TO HUMANS (AND DOMESTIC ANIMALS)

CAUTION

Harmful if swallowed or absorbed through the skin. Avoid contact with skin, eyes or clothing.

2.2 Personal Protective Equipment (PPE)

Some materials that are chemical resistant to this product are listed below.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Follow the manufacturer's instructions for cleaning/ maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

2.3 User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

2.4 Environmental Hazards

Do not contaminate water when disposing of equipment washwaters.

3.0 DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

4.0 STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Storage: Keep containers tightly closed when not in use. Do not store at temperatures below 0° F or above 90° F. Roll or shake the drum before dispensing.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water when disposing of equipment washwaters.

Container Disposal: Triple rinse (or equivalent), puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

CONTINUED

5.0 DIRECTIONS FOR NON-AGRICULTURAL APPLICATIONS

Not for use on plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes. For use on plants intended for aesthetic purposes or climatic modification and being grown in interior landscapes, ornamental gardens or parks, or on golf courses or lawns or grounds.

Not for use on trees being grown for sale or other commercial use, or for commercial seed production, or for the production of timber or wood products, or for research purposes except for wide-area public pest control programs sponsored by government entities, such as mosquito abatement, gypsy moth control, and mediterranean fruit fly eradication.

Do not enter treated areas without protective clothing until sprays have dried.

Do not apply this product to the non-agricultural use sites through any type of irrigation system.

Do not apply when weather conditions favor drift from treated areas.

Foray 48F is an insecticide for use against listed caterpillars (larvae) of lepidopterous insects. Close scouting and early attention to infestations is highly recommended. Larvae must eat deposits of Foray 48F to be affected. Always follow these directions:

- Treat when larvae are young (early instars) before the trees are damaged.
- Larvae must be actively feeding on treated, exposed plant parts.
- Thorough spray coverage is needed to provide a uniform deposit of Foray 48F at the site of larval feeding.
- Under heavy pest population pressure, use the higher label rates and/or consider a second application.
- If attempting to control a pest with a single spray, make the treatment when egg hatch is essentially complete, but before tree damage occurs.
- An approved spreader-sticker may be added to diluted tank mixes to improve weather-fastness of the spray deposits. Do not add a sticker to undiluted product.

After eating a lethal dose of Foray 48F, larvae stop feeding within the hour and will die within several days. Dying larvae move slowly, discolor, then shrivel, blacken and die.

Foray 48F is completely water miscible and may be applied through conventional ground or aerial equipment with quantities of water sufficient to provide thorough coverage of infested plant parts. The volume of water needed per acre will depend on weather, spray equipment and plant canopy type. Foray 48F can be mixed in any ratio with water. Mild agitation is sufficient to maintain the mixture in suspension during mixing, loading and spraying. Do not mix more Foray 48F than can be used in a 144 hour period.

Foray 48F can also be applied undiluted from aircraft for control of Spruce Budworm, Hemlock Looper, Jack Pine Budworm, and Gypsy Moth. It is recommended that rotary or other atomizers be used to provide droplet Volume Median Diameters (VMD) of 60-100 microns for needle conifers and 50-150 microns for deciduous hardwoods. After prolonged storage, undiluted Foray 48F should be recirculated once to redistribute prior to use. During loading and spraying, agitation of the undiluted product is unnecessary and should be avoided.

Foray 48F may be used to protect trees and shrubs such as in:

- Forests
- Residential, municipal, and shade tree areas
- Recreational areas such as campgrounds, golf courses, parks and parkways
- Ornamental and shade trees
- Shelterbelts, rights of way and other easements

CONTINUED

6.0 FORAY 48F FOR FOREST, TREES AND SHRUBS

Crop	Pest	OZ/100 GAL/A* (Ground Equipment)	OZ/A (Aerial** Application)	BFTUs/A***
Forest, Trees and Shrubs	Bagworm	21 to 43	21 to 43	8 to 16
	Blackheaded Budworm	21 to 64	21 to 64	8 to 24
	Browntail Moth	21 to 80	21 to 80	8 to 30
	California Oakworm	11 to 43	11 to 43	4 to 16
	Douglas Fir Tussock Moth	21 to 80	21 to 80	8 to 30
	Eastern Tent Caterpillar	43 to 64	43 to 64	16 to 24
	Elm Spanworm	21 to 64	21 to 64	8 to 24
	Fall Webworm	21 to 64	21 to 64	8 to 24
	Forest Tent Caterpillar	21 to 64	21 to 64	8 to 24
	Fruittree Leafroller	11 to 21	-	4 to 8
	Green Striped Maple Worm	21 to 43	21 to 43	8 to 16
	Gypsy Moth	21 to 128	21 to 128	8 to 48
	Asian Gypsy Moth	21 to 128	21 to 128	8 to 48
	Jack Pine Budworm	21 to 64	21 to 64	8 to 24
	Mimosa Webworm	11 to 21	-	4 to 8
	Oak Leaftier	21 to 64	21 to 64	8 to 24
	Pine Butterfly	21 to 43	21 to 43	8 to 16
	Redhumped Caterpillar	11 to 43	11 to 43	4 to 16
	Saddleback Caterpillar	11 to 43	-	4 to 16
	Saddled Prominent Caterpillar	11 to 43	11 to 43	4 to 16
	Spring & Fall Cankerworm	21 to 64	21 to 64	8 to 24
	Eastern Spruce Budworm[1]	21 to 128	21 to 128	8 to 48
	Western Spruce Budworm[1]	21 to 128	21 to 128	8 to 48
	Western Tussock Moth	21 to 43	21 to 43	8 to 16
	Eastern Hemlock Looper	43 to 64	43 to 64	16 to 24
	Western Hemlock Looper	43 to 64	43 to 64	16 to 24
	Eastern Pine Looper	43 to 64	43 to 64	16 to 24
	Leafrollers	21 to 43	21 to 43	8 to 16
	Buck Moth	43 to 107	43 to 107	16 to 40
	Oak Skeletonizer	21 to 43	21 to 43	8 to 16
	Tortrix	21 to 43	21 to 43	8 to 16
	Coneworm	64 to 96	64 to 96	24 to 32

NOTE: For Hemlock Looper, Eastern Pine Looper, and Coneworms, use 1 to 2 applications, diluted or undiluted, beginning at peak first instar.

* Water dilution rate for hydraulic sprayer may be varied depending on coverage. For mist blowers, mix the applicable amount (oz.) in up to 10 gallons of water.

** For diluted aerial application, use in up to 10 gallons of water depending on type and density of trees. For best results, spray systems which deliver droplet size of 150 microns VMD or less should be used. Note: For Hemlock Looper and Eastern Pine Looper use 1-2 applications, beginning at peak first instar. When applying two applications, first application is at peak first instar and second application is at second instar.

*** Billion Forestry Toxic Units per acre.

[1] Use rates greater than 21 ounces in Northern states for heavy populations.

7.0 NOTICE TO USER

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS OR OTHERWISE CONCERNING USE OF THIS PRODUCT OTHER THAN AS INDICATED ON THE LABEL. USER ASSUMES ALL RISKS OF USE, STORAGE OR HANDLING NOT IN STRICT ACCORDANCE WITH ACCOMPANYING DIRECTIONS.

Valent BioSciences

Foray® 48F

Biological Insecticide

Material Safety Data Sheet

Valent BioSciences Corporation
870 Technology Way, Suite 100
Libertyville, IL 60048
Emergency Telephone - Prosar: 1-877-315-9819
Valent BioSciences Telephone: 1-847-968-4790

Issue Date:	02/09/01
List/Code:	60177/31049
DOT Classification:	Not Regulated
EPA Registration No.:	73049-35
Emergency Overview:	This material is an eye irritant, a skin sensitizer and may irritate the lungs if inhaled by analogy to a similar formulation.
NFPA:	Health 1; Fire 1; Reactivity 0

COMPOSITION / INGREDIENTS

Ingredient Name:	*Bacillus thuringiensis* subsp. *kurstaki*	Inert Ingredients *
% Concentration:	5.7%	94.3%
CAS/RTECS Numbers:	N/A / N/A	N/A / N/A
OSHA-PEL 8HR TWA:	N/L	N/L
STEL:	N/L	N/L
Ceiling:	N/L	N/L
ACGIH-TLV 8HR TWA:	N/L	10 ppm for a minor ingredient.
STEL:	N/L	N/L
Ceiling:	N/L	N/L
OTHER 8HR TWA:	N/A	N/A
LIMITS STEL:	N/A	N/A
Ceiling:	N/A	N/A

* Identity withheld as a Trade Secret

HEALTH CONSIDERATIONS

Route(s) of Entry:	Skin: No Inhalation: No Ingestion: No
Carcinogenicity Rating:	NTP: N/L IARC: N/L OSHA: N/L ACGIH: N/L None
Signs and Symptoms:	N/D. Analogy suggests skin or eye irritation and allergic skin reactions are possible. Inhalation may result in respiratory tract irritation.
Medical Conditions Aggravated by Exposure:	N/D. Hypersensitivity to DiPel 6AF or similar formulations. Data suggest pre-existing skin or eye lesions or lung ailments.
Oral Toxicity:	N/D. LD50 > 5000 mg/kg in rats for a similar formulation. No signs of toxicity were observed.
Dermal Toxicity:	N/D. LD50 > 2000 mg/kg in rabbits for a similar formulation. No signs of toxicity were observed.
Inhalation Toxicity:	Not lethal in a rat inhalation study at the maximum achievable concentration of 5.47mg/ltr/4 hours as an aerosol.
Corrosiveness:	N/D
Dermal Irritation:	N/D. A similar formulation was slightly irritating in a skin irritation test in rabbits; reversible within 9 days.
Ocular Irritation:	N/D.A similar formulation was slightly to moderately irritating in an eye irritation test in rabbits; reversible within 7 days.
Dermal Sensitization:	N/D. A similar formulation was considered to be a sensitizer in the modified Buehler skin sensitization study in guinea pigs.
Target Organs:	Eyes, skin, possibly lungs.
Special Target Organ Effects:	N/D. In subchronic oral toxicity studies in rats and sheep and a 2-year chronic oral toxicity study in rats with the active ingredient, no significant treatment-related effects were observed at dosages of 500mg/kg/day or more. In a 4-week inhalation study in guinea pigs,animals receiving 10.35 mg/ltr nominal (0.23 mg/ltr gravimetric) exhibited some evidence of inflammation in the lungs.
Carcinogenicity Information:	N/D

EMERGENCY AND FIRST AID PROCEDURE

Eyes/Skin: Remove from source of exposure. Flush with copious amounts of water. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

Ingestion/ Inhalation: Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic /supportive care as necessary.

FIRE FIGHTING PROCEDURES

Flash Point:	N/D
Lower Explosive Limit (%):	N/D
Upper Explosive Limit (%):	N/D
Autoignition Temperature:	N/D
Fire and Explosive Hazards:	N/D
Extinguishing Media:	Use appropriate medium for the underlying cause of fire.
Fire Fighting Instructions:	Wear protective clothing and self-contained breathing apparatus.

SAFE HANDLING, USE, STORAGE, and DISPOSAL

Handling:	N/D
Storage:	Keep containers tightly closed when not in use. Do not store at temperatures below 0° F or above 90° F. Roll or shake drum before dispensing.
Special Precautions:	Wash hands and face after handling this compound. Keep latex gloves on until all potentially contaminated personal protective equipment is removed.
Spill or Release Procedures:	Recover product, place into appropriate container for disposal. Ventilate and wash spill area.
Disposal:	Dispose of product in accordance with federal, state, and local regulations.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Field Application:

Some materials that are chemical resistant to this product are listed below.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Follow the manufacturer's instructions for cleaning/ maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical State:	Tan to brown suspension
Odor:	N/D
Boiling Point:	N/D
Melting/Freezing Point:	N/A
Vapor Pressure (mm Hg):	N/A
Vapor Density (Air=1):	N/A
Evaporation Rate:	N/D
Bulk Density:	9.27 - 9.59 lb/gal
Specific Gravity:	N/D
Solubility:	Dispersible in water
pH:	4.6-5.2
Viscosity:	N/D
Reactivity:	Alkalinity inactiviates product

LEGEND

N/A = Not Applicable
L = Listed
ltr = liter
N/D = Not Determined
S = Short Term
N/L = Not Listed
C = Ceiling

The information and recommendations contained herein are based upon tests believed to be reliable. However, Valent BioSciences does not guarantee their accuracy or completeness NOR SHALL ANY OF THIS INFORMATION CONSTITUTE A WARRANTY, WHETHER EXPRESSED OR IMPLIED, AS TO THE SAFETY OF THE GOODS, THE MERCHANTABILITY OF THE GOODS, OR THE FITNESS OF THE GOODS FOR A PARTICULAR PURPOSE. Adjustment to conform with actual conditions of usage may be required. Valent BioSciences assumes no responsibility for results obtained or for incidental or consequential damages arising from the use of these data. No freedom from infringement of any patent, copyright or trademark is to be inferred.

VALENT BIOSCIENCES CORPORATION
870 TECHNOLOGY WAY
LIBERTYVILLE, IL 60048-5818

AG5089/R9 February 2001

© Valent BioSciences Corporation

Foray® 76B

Biological Insecticide
Flowable Concentrate

ACTIVE INGREDIENT:
Bacillus thuringiensis subspecies *kurstaki,* Lepidopteran
Active Toxin..... 3.3%
INERT INGREDIENTS 96.7%
TOTAL 100.0%

POTENCY: 16,700 International Units (IU)/mg of product (equivalent to 76 billion IU/Gal). **Potency units should not be used to adjust use rates beyond those specified in the "directions for use" section.**

EPA Reg. No. 73049-49
EPA Est. No. 33762-IA-001 List No. 60176

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6.0 Mixing
7.0 Application
8.0 Application Rates
9.0 Notice to User

KEEP OUT OF REACH OF CHILDREN
CAUTION
For MEDICAL and TRANSPORT Emergencies
ONLY Call 24 Hours A Day 1-877-315-9819. For All Other Information Call 1-800-323-9597.

1.0 STATEMENT OF PRACTICAL TREATMENT

If on Skin: Wash with plenty of soap and water. Get medical attention.

If in Eyes: Flush with plenty of water. Call a physician if eye irritation persists.

2.0 PRECAUTIONARY STATEMENTS

2.1 HAZARD TO HUMANS (AND DOMESTIC ANIMALS) CAUTION

Avoid contact with skin, eyes, open wounds or clothing. Causes moderate eye irritation.

2.2 Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Follow the manufacturer's instructions for cleaning/ maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

2.3 User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

2.4 Environmental Hazards

Do not contaminate water when disposing of equipment washwaters.

3.0 DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

4.0 STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal of waste.

Storage: Store in a cool, dry place. Keep containers tightly closed when not in use. Store in temperatures above freezing and below 25°C (77°F).

Pesticide Disposal: Pesticide waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility in accordance with federal and local regulations.

Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

CONTINUED

5.0 DIRECTIONS FOR NON-AGRICULTURAL APPLICATIONS

Not for use on plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes. For use on plants intended for aesthetic purposes or climatic modification and being grown in interior plantscapes, ornamental gardens or parks, or on golf courses or lawns and grounds.

Not for use on trees being grown for sale or other commercial use, or for commercial seed production, or for the production of timber or wood products, or for research purposes except for wide-area public pest control programs sponsored by government entities, such as mosquito abatement, gypsy moth control, and mediterranean fruit fly eradication.

For use on plants in non-crop and non-timber areas only. Not for use on crops, timber, or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.

6.0 MIXING

Foray 76B contains the spores and endotoxin crystals of *Bacillus thuringiensis kurstaki.* Foray 76B is a stomach poison and is effective against lepidopterous larvae. After ingestion, larvae stop feeding within hours and die 2-5 days later. Maximum activity is exhibited against early instar larvae. Foray 76B may be used for both ground and aerial application. The product should be shaken or stirred before use. Add some water to the tank mix, pour the recommended amount of Foray 76B into the tank and then add the remaining amount of water to obtain the proper mix ratio. Agitate as necessary to maintain the suspension. The diluted mix should be used within 72 hours.

7.0 APPLICATION

Ground Application:

Use an adequate amount of tank mix to obtain thorough coverage without excessive run off. Use the recommended per acre dosages of Foray 76B in up to the following amounts of water:

High volume hydraulic sprayers	100 gallons
Mist blowers	10 gallons

Aerial Application:

Foray 76B may be applied aerially, either alone or diluted with water at the dosages shown in the application rates table. Spray volumes of 28-128 ounces per acre are recommended. Best results are expected when Foray 76B is applied to dry foliage.

8.0 APPLICATION RATES

Crop	Pests	Rate[1] (oz/acre)	Dosage[1] (BIU/acre)
Forests, Shade Trees, Ornamentals, Shrubs, Sugar Maple Trees, Ornamental Fruit, Nut and Citrus Trees[2]	Gypsy Moth, Elm Spanworm	13.5-67.5	8-40
	Spruce Budworm, Browntail Moth, Douglas Fir Tussock Moth, Coneworm, Buck Moth	13.5-50.5	8-30
	Tussock Moth, Pine Butterfly, Bagworm, Leafroller, Tortrix, Mimosa Webworm, Tent Caterpillar, Jackpine Budworm, Blackheaded Budworm, Saddled Prominent, Saddleback Caterpillar, Eastern and Western Hemlock Looper, Orangestriped Oakworm, Satin Moth,	10.0-27.0	6-16
	Redhumped Caterpillar, Spring and Fall Cankerworm, California Oakworm, Fall Webworm	7.0-13.5	4-8

Special Instructions

[1] Use the higher recommended rates on advanced larval stages or under high density larval populations.

[2] In treating gypsy moth infested trees and shrubs in urban, rural, and semi-rural areas, exposure of non-target vegetation including, but not limited to, native and ornamental species and food or feed crops is permitted.

9.0 NOTICE TO USER

VALENT BIOSCIENCES CORPORATION MAKES NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PURPOSE, OR OTHERWISE, EXPRESS OR IMPLIED, CONCERNING THIS PRODUCT OR ITS USES WHICH EXTEND BEYOND THE USE OF THE PRODUCT UNDER NORMAL CONDITIONS IN ACCORD WITH THE STATEMENTS MADE ON THIS LABEL. IN NO CASE SHALL THE SELLER BE LIABLE FOR CONSEQUENTIAL, OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. ALL SUCH RISKS SHALL BE ASSUMED BY THE BUYER.

VALENT BIOSCIENCES CORPORATION
870 TECHNOLOGY WAY
LIBERTYVILLE, IL 60048 - 800-323-9597

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Valent BioSciences

Foray® 76B

Biological Insecticide

Material Safety Data Sheet

Valent BioSciences Corporation
870 Technology Way, Suite 100
Libertyville, IL 60048
Emergency Telephone - Prosar: 1-877-315-9819
Valent BioSciences Telephone: 1-847-968-4790

Issue Date:	02/09/014
List/Code:	60176/35530
DOT Classification:	Not Regulated
EPA Registration No.:	73049-49
Emergency Overview:	This material may cause transient skin and eye irritation.
NFPA:	Health 1; Fire 1; Reactivity 0

COMPOSITION / INGREDIENTS

Ingredient Name:	*Bacillus thuringiensis* subsp. *kurstaki*	Inert Ingredients *
% Concentration:	3.3%	96.7%
CAS/RTECS Numbers:	68038-71-1, N/A	N/A, N/A
OSHA-PEL 8HR TWA:	N/L	1 mg/m^3 for a minor component
STEL:	N/L	N/L
Ceiling:	N/L	N/L
ACGIH-TLV 8HR TWA:	N/L	N/L
STEL:	N/L	N/L
Ceiling:	N/L	N/L
OTHER 8HR TWA:	N/A	50 ppm total, 10 mg/m^3 aerosol only. AIHA WEEL for a minor component.
LIMITS STEL:	N/A	N/A
Ceiling:	N/A	N/A

* Identity withheld as a trade secret.

HEALTH CONSIDERATIONS

Route(s) of Entry:	Skin: No Inhalation: No Ingestion: No
Carcinogenicity Rating:	NTP: N/L IARC: N/L OSHA: N/L ACGIH: N/L None
Signs and Symptoms:	N/D. May cause slight transient skin, eye and respiratory irritation.
Medical Conditions Aggravated by Exposure:	N/D. Pre-existing skin, eye, and respiratory ailments.
Oral Toxicity:	LD50 > 5,000 mg/kg in rats. EPA Category IV.
Dermal Toxicity:	LD50 > 2,500 mg/kg in rabbits. EPA Category III.
Inhalation Toxicity:	Not lethal in an inhalation study at the maximum achievable concentration of 3.22 mg/ltr. EPA Category IV.
Corrosiveness:	No
Dermal Irritation:	Slight skin reactions up to 24 hours after treatment. EPA Category IV.
Ocular Irritation:	Mild irritation. Reversible within 7 days. EPA Category III.
Dermal Sensitization:	N/D.
Target Organs:	Possibly skin, eyes, and respiratory tract.
Special Target Organ Effects:	N/D.
Carcinogenicity Information:	N/D.

EMERGENCY AND FIRST AID PROCEDURE

Eyes/Skin: Remove from source of exposure. Flush with copious amounts of water. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

Ingestion/ Inhalation: Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

FIRE FIGHTING PROCEDURES

Flash Point:	N/D
Lower Explosive Limit (%):	N/D
Upper Explosive Limit (%):	N/D
Autoignition Temperature:	N/D
Fire and Explosive Hazards:	N/D
Extinguishing Media:	Use appropriate medium for underlying cause of fire.
Fire Fighting Instructions:	Wear protective clothing and self-contained breathing apparatus.

SAFE HANDLING, USE, STORAGE, and DISPOSAL

Handling:	Avoid formation of dust during handling/pouring.
Storage:	Store in a cool place. Keep containers tightly closed when not in use. Store in temperatures above freezing and below 25°C (77°F).
Special Precautions:	Wash thoroughly with soap and water after handling.
Spill or Release Procedures:	Recover product and place in appropriate container for disposal. Ventilate and wash the spill area.
Disposal:	Dispose of product in accordance with federal, state and local regulations.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Field Application: Applicators and other handlers must wear:

* Long sleeved shirt and long pants
* Waterproof gloves
* Shoes plus socks

Foray® 76B

PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical State:	Light brown suspension.
Odor:	Pungent, bacterial odor.
Boiling Point:	N/D
Melting/Freezing Point:	N/D
Vapor Pressure (mm Hg):	N/D
Vapor Density (Air=1):	N/D
Evaporation Rate:	N/D
Bulk Density:	1.1-1.2 g/mL
Specific Gravity:	N/D
Solubility:	Readily mixable in water.
pH:	4.1-4.5 (as a 10% solution in water)
Viscosity:	N/D
Reactivity:	Alkalinity inactivates product.

LEGEND

N/A = Not Applicable
L = Listed
ltr= liter

N/D = Not Determined
S = Short Term

N/L = Not Listed
C = Ceiling

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VALENT BIOSCIENCES CORPORATION

AG5070IR9 February 2001

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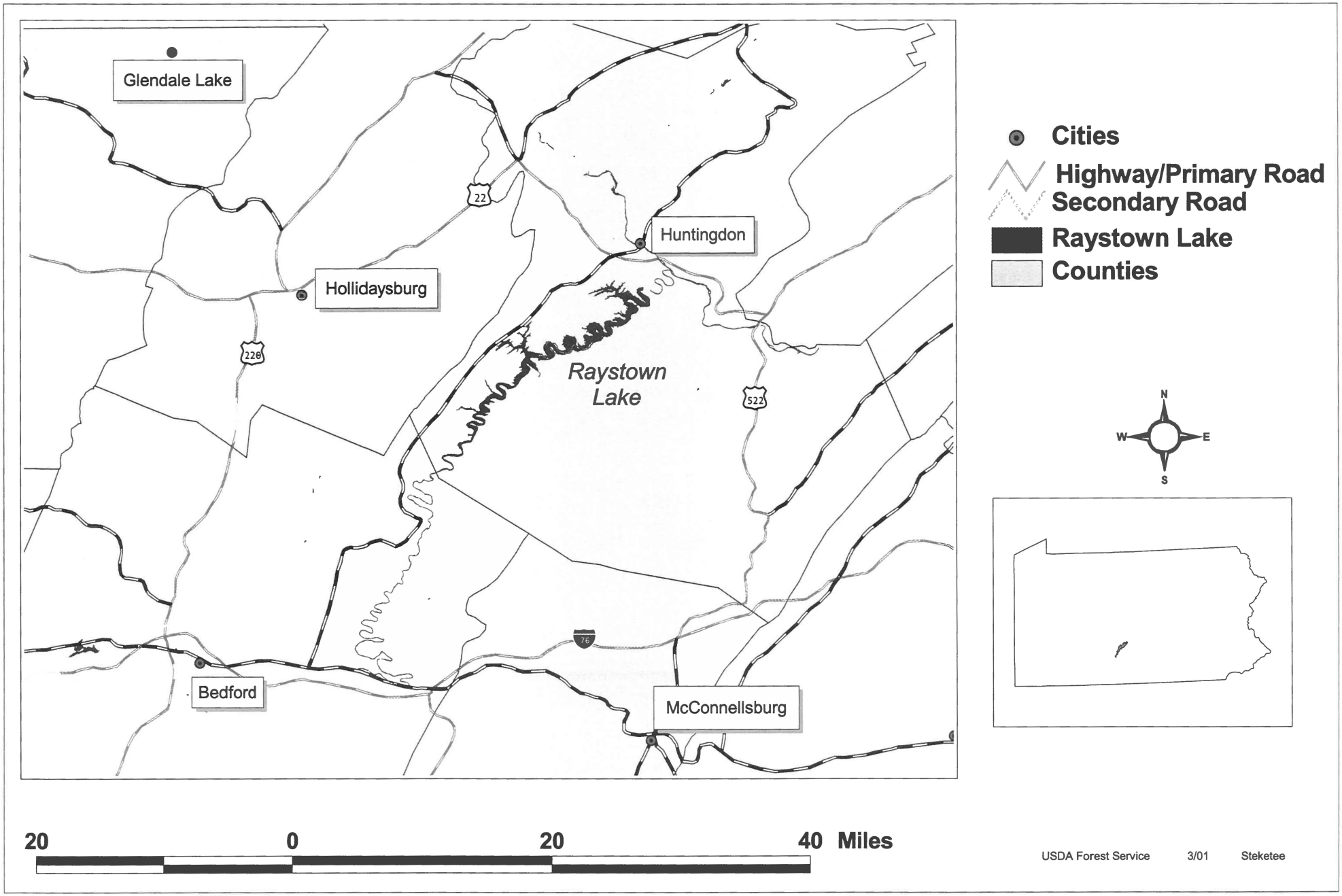
APPENDIX I

MAPS

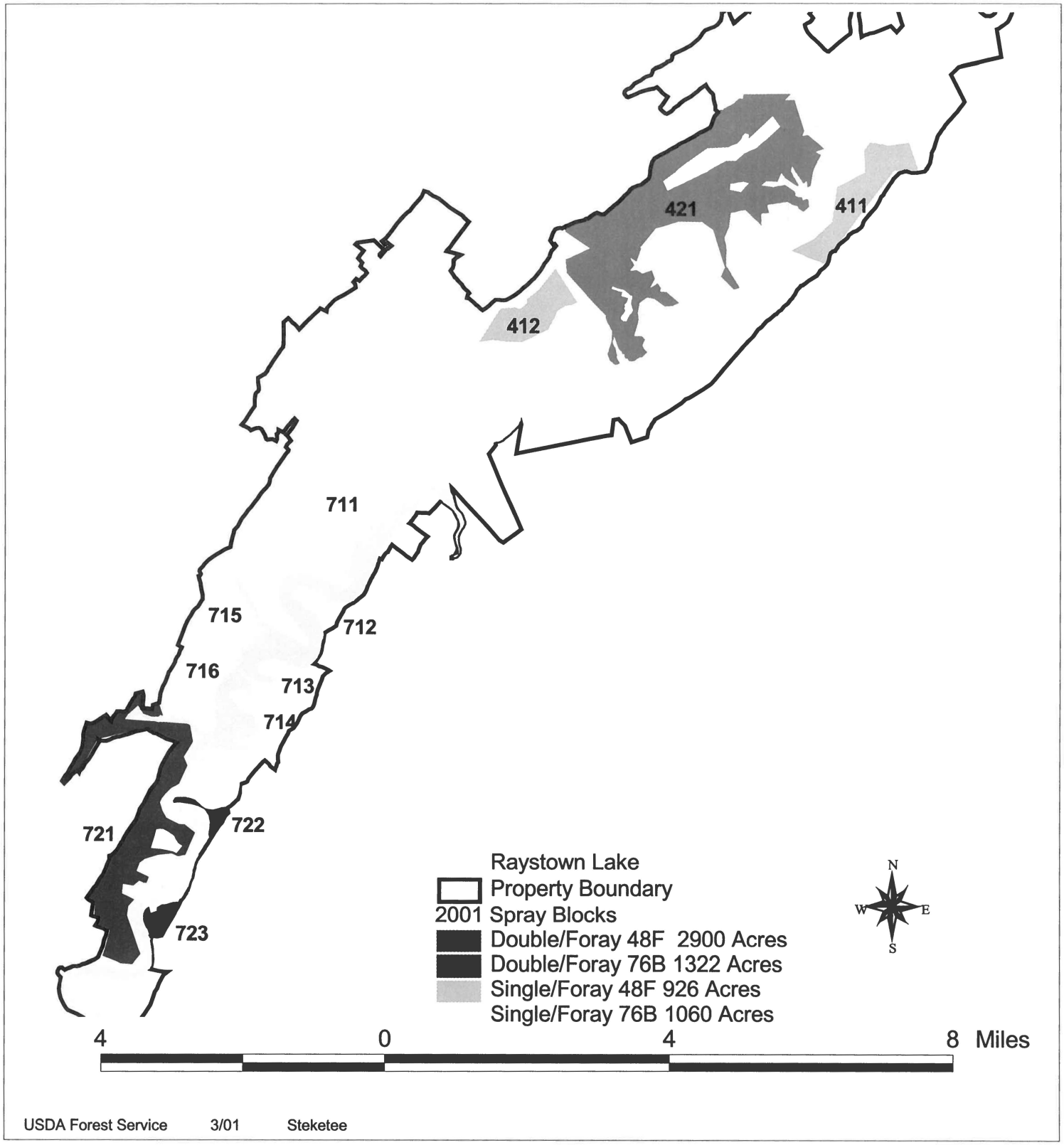
*General Location

*Treatment Areas

General location map of Raystown Lake.



2001 Gypsy moth treatment blocks at Raystown Lake.



APPENDIX J

ADMINISTRATIVE PHONE NUMBERS

FOR THE ENTIRE PROJECT

ADMINISTRATIVE PHONE NUMBERS

US Army Corps of Engineers

Raystown Lake

Allen Gwinn	w (814) 658-6810	h (814) 658-2010
Jeff Krouse	w (814) 658-6813	h (814) 643-2372

USDA Forest Service

Rod Whiteman	w (304) 285-1555 c (304) 276-8995	h (304) 291-2001 f (304) 285-1508/1505
Brad Onken	w (304) 285-1546 c (304) 276-8991	h (304) 379-1168 f (304) 285-1508/1505
Karen Felton	w (304) 285-1556 c (304) 276-8994	h (304) 291-0019 f (304) 285-1508/1505
Matt Seese	w (304) 285-1549	

Contractor

Helicopter Applicators, Inc.
1670 York Road
(717) 337-1370

Roger Johnsonbaugh – Pilot (N#652HA)
Brian Redding – Pilot (N#122CD)

Lodging – 55

Huntingdon

Days Inn	(814) 643-3934

Altoona

Days Inn	(814) 944-9661
Econolodge	(814) 944-3555
Hampton Inn	(814) 941-3500
Holiday Inn	(814) 944-4581
Motel 6	(814) 946-7601
Ramada Inn	(814) 946-1631
Super 8 Motel	(814) 942-5350

State College

Best Western	(814) 237-8005
Comfort Suites	(814) 235-1900
Hampton Inn	(814) 231-1590

Breezewood

Best Western	(814) 735-4352
Econolodge	(814) 735-4341
Holiday Inn Express	(814) 735-7666
Ramada Inn	(814) 735-4005